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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/890,357 | 01/09/2002 | Kauno Alastalo | 3696-0180P | 1586 |
| 2292 | 7590 | 02/10/2004 | EXAMINER | |
| BIRCH STEWART KOLASCH & BIRCH | | | BROWN, JENNINE M | |
| PO BOX 747 | | | ART UNIT | PAPER NUMBER |
| FALLS CHURCH, VA 22040-0747 | | | 1755 | |
| DATE MAILED: 02/10/2004 | | | | |

Please find below and/or attached an Office communication concerning this application or proceeding.

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|------------------------------|------------------------|---------------------|
| Office Action Summary | Application No. | Applicant(s) |
| | 09/890,357 | ALASTALO ET AL. |
| | Examiner | Art Unit |
| | Jennine M. Brown | 1755 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 07 November 2003.
- 2a) This action is **FINAL**. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-43 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1,2,4-10,14-17,20-27,30-32,34,36-38 and 41-43 is/are rejected.
- 7) Claim(s) 3,11-13,18,19,28,29,33,35 and 39-40 is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) The translation of the foreign language provisional application has been received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

Claims Analysis

Claims 1-20 and 28-40 are drawn to a catalyst system. These claims are written as product-by-process. MPEP § 2113 recites, "even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend upon its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." The catalyst system will be interpreted as any catalyst system having the limitations of the primary claim (transition metal compound, organoaluminum compound, premonomer, second organoaluminum compound and an oil) and/or produce the same product as that claimed.

The oil claimed in claim 1, although not specified in the claim, is to be interpreted as hot silicone oil, mineral oil or a biogenic oil because these are the only oils supported in the specification.

Specification

The amendment of the abstract has been entered, therefore the Examiner has withdrawn the previous objection to the specification.

Claim Objections

Examiner has entered Applicants amendment, which obviates Examiners previous objection, therefore the previous objection has been withdrawn.

Claims 28 and 29 are unclear as to the weight ratio. Examiner assumes because of the dependency that applicants mean that the ratio is between the transition metal and the oil.

Claim Rejections - 35 USC § 112

Examiner has entered Applicants amendment, which obviates Examiners previous rejection, therefore the previous rejection has been withdrawn.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 21-27 and 41-43 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps.

See MPEP § 2172.01. The omitted steps are:

1. What specific type of catalyst is used? Different transition metals can be used to change the polymerization characteristics of a polymer such as whether it is syndio or atactic, etc.
2. Is the catalyst pre-activated when it is introduced or are co-catalysts or activators required?
3. What are the conditions under which the α-olefin is contacted with the catalyst system? For example, what temperature, pressure, and rate of introduction of materials are used? Is it a gas phase, liquid phase or solid phase introduction?
4. Does it matter what type of α-olefin is used in the system, e.g. ethylene or propylene or other alpha olefin or mixture of olefins?
5. What is the order of contact for the materials or does the order not matter?

Claim Rejections - 35 USC § 102/Claim Rejections - 35 USC § 103

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

- (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
- (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-2, 4-6, 9-10, 14-17, 20, 30-32, 34, 36-38 are rejected under 35 U.S.C. 102(a) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over CN 1183788 A.

According to the Text Portion of the Notification of the First Office Action during the international phase examination provided by Applicants, "the catalyst activation comprises contacting solid transition metal compound (such as the reaction product of magnesium dichloride carrier and titanium tetrachloride) with an organoaluminum compound, wherein the catalyst precursor is diluted in the inert heavy hydrocarbon solvent ... then contacted with a portion of cocatalyst (such as organoaluminium compound, for example triethyl aluminium) ... Next, prepolymerization is carried out using another portion of cocatalyst (such as organoaluminium compound, for example triethyl aluminium), external electron donor, the activated catalyst and prepolymerization monomer, wherein the ratio of the portion of cocatalyst used for the activation of catalyst precursor and another portion of cocatalyst used for the catalyst prepolymerization is 0.01-0.4. This catalyst system could be used for preparing a homopolymer and copolymer of olefins with general formula $\text{CH}_2=\text{CR}_1\text{R}_2$, wherein R_1 and R_2 are identical or different, and represent hydrogen or $\text{C}_1\text{-C}_{10}$ alkyl ..." There is an overlapping range between dependent claims 4-5 and 30-31 of the instant application and CN 1183788 A which discloses a temperature range between -20 to +50 degrees C. There is an overlapping range between dependent claims 6, 32 and 38 of the instant application and CN 1183788 A which discloses an Al/Tr ratio between 1.5 and 5.

The catalyst system of the instant application and that of CN 1183788 A are inherently the same or alternatively obvious variants of one another as there are many overlapping ranges in process conditions, molecular ratios and catalyst system ingredients and number of aluminium additions.

Claims 1-2, 4, 15-17, 20-23, 27, 30, 36-37, 42-43 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Herrmann, et al. (US 5578537 A).

Hermann, et al. disclose a catalyst system and a process for polymerization of α -olefins using said catalyst system where the catalyst system contains a transition metal compound with an organoaluminum compound, premonomer, oil and second organoaluminum compound. (col. 2, l. 7 col. 3, l. 15; col. 12, l. 7-23, 46-59; col. 14, l. 17-55; Examples 1-15). Each of the dependent limitations cited herein are found within the referenced sections above.

The catalyst system and process for the polymerization of α -olefins in the instant application and that of Hermann, et al. are inherently the same or alternatively obvious variants of one another as the polymerized product has the same properties as that of the process steps claimed and would therefore be produced from a catalyst system which is the same or an obvious variant of the disclosed catalyst system.

Claims 1-2, 4, 7-8, 15-17, 20, 21-23, 27, 30, 36-37, 43 are rejected under 35 U.S.C. 102(a) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Kawasaki, et al. (US 5756575 A).

Kawasaki, et al. disclose a catalyst system and a process for polymerization of α -olefins using said catalyst system where the catalyst system contains a transition metal compound with an organoaluminum compound, premonomer, oil and second organoaluminum compound. (col. 4, l. 38-56, 61-65; col. 4, l. 66 – col. 5, l. 4; col. 7, l. 49-64; col. 8, l. 28 – col. 9, l. 26; col. 10, l.

6-30; Referential Example 1). Each of the dependent limitations cited herein are found within the referenced sections above.

The catalyst system and process for the polymerization of α -olefins in the instant application and that of Hermann, et al. are inherently the same or alternatively obvious variants of one another as the polymerized product has the same properties as that of the process steps claimed and would therefore be produced from a catalyst system which is the same or an obvious variant of the disclosed catalyst system.

Claims 1-2, 4, 14-17, 20-23, 27, 36-37, 42-43 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Rifi, et al. (US 5677375).

Rifi, et al. disclose a catalyst system and a process for polymerization of α -olefins using said catalyst system where the catalyst system contains a transition metal compound with an organoaluminum compound, premonomer, oil and second organoaluminum compound. (abstract; col. 2, l. 33 – col. 3, l. 9; col. 3, l. 55-65; col. 3, l. 66 – col. 4, l. 22; col. 4, l. 23-58; col. 5, l. 15-31; col. 5, l. 34 – col. 6, l. 17; col. 6, l. 64 – col. 7, l. 7; col. 7, l. 23-29; Example; claims 1-10) Each of the dependent limitations cited herein are found within the referenced sections above.

The catalyst system and process for the polymerization of α -olefins in the instant application and that of Hermann, et al. are inherently the same or alternatively obvious variants of one another as the polymerized product has the same properties as that of the process steps claimed and would therefore be produced from a catalyst system which is the same or an obvious variant of the disclosed catalyst system.

Response to Arguments

Applicant's arguments with respect to the newly amended claims have been considered but are moot in view of the new grounds of rejection.

Allowable Subject Matter

Claims 3, 11-13, 18-19, 33, 35, 39-40 are objected to as being dependent upon a rejected base claim, but may be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennine M. Brown whose telephone number is (571) 272-1364. The examiner can normally be reached on M-F 8:00 AM - 6:00 PM; first Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Bell can be reached on (571) 272-1362. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306 and the examiner's fax number is 571-273-1364.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

jmb



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